

IN THE CLAIMS

1. A method for displaying communication data transmitted according to a communication protocol standard, comprising:

receiving said communication data transmitted according to a first protocol of said communication protocol standard for completing an operation at a second protocol of said communication protocol standard;

converting said communication data into first text fields according to said first protocol and into second text fields according to said second protocol;

associating said first text fields with respective first field descriptors according to said first protocol for forming respective first field cells and said second text fields with respective second field descriptors according to said second protocol for forming respective second field cells; and

displaying said first and second field cells on a display, said second field cells displayed in a hierarchical manner with respect to said first field cells.

2. The method of claim 1, wherein:

said first protocol is a packet level protocol for said communication protocol standard.

3. The method of claim 1, wherein:

said first protocol is a protocol at level that is higher than a packet level protocol for said communication protocol standard.

4. The method of claim 1, wherein:

displaying said first and second field cells  
includes:

organizing said second field cells into a second  
5 protocol unit;

displaying said second protocol unit in a linear  
manner;

organizing said first field cells into at least  
one first protocol unit, each said first protocol unit  
10 representative of said communication data for completing an  
operation at said first protocol; and

displaying each said first protocol unit in a  
linear manner parallel to said second protocol unit.

15 5. The method of claim 4, further comprising:

selecting an indicator associated with said second  
protocol unit for toggling between an expanded display state  
for showing said at least one first protocol unit and a  
collapsed display state for hiding said at least one first  
20 protocol unit.

6. The method of claim 1, further comprising:

selecting a one of said field cells within a  
corresponding said protocol unit for toggling between a  
25 collapsed display state and an expanded display state;  
wherein said expanded display state shows certain ones of  
said field cells within said corresponding protocol unit and  
said collapsed display state hides said certain ones of said  
field cells.

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7. The method of claim 1, further comprising:  
selecting one of said field cells; and  
displaying additional descriptive information from  
said protocol standard for said selected one of said field  
5 cells.

8. The method of claim 1, further comprising:  
selecting a particular one of said field cells for  
displaying a menu of user options associated with said  
10 particular field cell.

9. The method of claim 1, further comprising:  
receiving further said communication data  
transmitted according to said second protocol of said  
15 communication protocol standard for completing an operation  
at an Nth protocol of said communication protocol standard;  
converting said communication data into Nth text  
fields according to said Nth protocol;  
associating said Nth text fields with respective  
20 Nth field descriptors according to said Nth protocol for  
forming respective Nth field cells; and  
displaying said Nth field cells on said display,  
said Nth field cells displayed in a hierarchical manner  
with respect to said second field cells.

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10. The method of claim 1, wherein:  
certain ones of said first and second text fields  
are measurements on said communication data.

11. The method of claim 1, wherein:

said first and second field descriptors include captions respectively indicative of attributes of said first and second text fields, respectively.

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12. The method of claim 1, wherein:

said first and second field descriptors use colors for representing said first and second field descriptors.

10 13. An apparatus for displaying communication information transmitted according to a communication protocol standard, comprising:

a receiver for receiving said communication data transmitted according to a first protocol of said  
15 communication protocol standard for completing an operation at a second protocol of said communication protocol standard;

an interpreter for converting said communication data into first text fields according to said first protocol  
20 and into second text fields according to said second protocol, and associating said first text fields with respective first field descriptors according to said first protocol for forming respective first field cells and said second text fields with respective second field descriptors  
25 according to said second protocol for forming respective second field cells; and

a display for presenting said first and second field cells, said second field cells presented in a hierarchical manner with respect to said first field cells.

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14. The apparatus of claim 13, wherein:

said first protocol is a packet level protocol for said communication protocol standard.

5 15. The apparatus of claim 13, wherein:

said first protocol is a protocol at level that is higher than a packet level protocol for said communication protocol standard.

10 16. The apparatus of claim 13, wherein:

the interpreter organizes said second field cells into a second protocol unit and organizes said first field cells into at least one first protocol unit, each said first protocol unit representative of said communication data for completing an operation at said first protocol; and

the display presents said second protocol unit in a linear manner and presents each said first protocol unit in a linear manner parallel to said second protocol unit.

20 17. The apparatus of claim 16, wherein:

said second protocol unit includes an indicator having a first indication for indicating a collapsed display state and a second indication for indicating an expanded display state; and

25 the display includes an interface coupled to said indicator toggling between said collapsed display state and said expanded display state; wherein said expanded display state shows said at least one first protocol unit and said collapsed display state hides said at least one first  
30 protocol unit.

18. The apparatus of claim 13, wherein:

a particular one of said field cells within a corresponding said protocol unit includes an indicator having a first indication for indicating a collapsed display state and a second indication for indicating an expanded display state; and

the display includes an interface coupled to said indicator for toggling between said collapsed display state and said expanded display state; wherein said expanded display state shows certain ones of said field cells within said corresponding protocol unit and said collapsed display state hides said certain ones of said field cells.

19. The apparatus of claim 13, further comprising:

a selector coupled to the display for selecting a particular one of said field cells; and wherein:

the display presents additional descriptive information from said protocol standard for said particular field cell when said particular field cell is selected.

20. The apparatus of claim 13, further comprising:

a selector coupled to the display for selecting a particular one of said field cells; and wherein:

the display presents a menu of user options associated with said particular field cell when said particular field cell is selected.

21. The apparatus of claim 13, wherein:

the receiver receives further said communication data transmitted according to said second protocol of said communication protocol standard for completing an operation at an Nth protocol of said communication protocol standard;

the display presentation driver converts said communication data into Nth text fields according to said Nth protocol and associates said Nth text fields with respective Nth field descriptors according to said Nth  
5 protocol for forming respective Nth field cells; and  
the display displays said Nth field cells in a hierarchical manner with respect to said second field cells.

22. The apparatus of claim 13, wherein:  
10 certain ones of said first and second text fields are measurements on said communication data.

23. The apparatus of claim 13, further comprising:  
said first and second field descriptors include  
15 captions respectively indicative of attributes of said first and second text fields, respectively.

24. The apparatus of claim 13, wherein:  
said first and second field descriptors use colors  
20 for representing said first and second field descriptors.

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